Delta Cross Channel, Through Delta Facility and Franks Tract (DCC/TDF/FT) Technical Team

June 9, 2005 meeting, 1:30-4:30, Room CBDA Delta Room

General Project Information

DCC/TDF Update and Activities

The reoperations of the Delta Cross Channel and the Through Delta Facility projects are major CALFED Conveyance actions. In accordance with the August 2000 CALFED Record of Decision, the following assessments must be satisfactorily completed: (1) a thorough analysis of Delta Cross Channel (DCC) operation strategies and alternatives to alleviate water quality impacts from DCC operations; (2) a thorough evaluation of the technical viability of a diversion facility; and (3) satisfactory resolution of the fisheries concerns about a diversion facility. Upon resolution of these assessments, the evaluation of a Through Delta Facility (TDF) diversion on the Sacramento River would be conducted. The goals of these actions are to improve water quality in the Delta and at export facilities and protect the fisheries of the Delta.

Under the DCC/TDF, several fishery studies have been conducted by multiple investigators. Some of the studies which have been led by DWR's Division of Environmental Services include the Sturgeon Passage, Yolo Bypass Toe Drain and Sacramento Deep Water Ship Channel. A general status of these studies is provided below.

Sturgeon Passage Study

Description: The White Sturgeon Flume Study is to research, evaluate, design, and implement sturgeon passage facilities by observing and quantifying the behavioral responses of adult white sturgeon (*Acipenser transmontanus*) to various flow velocities, and various sizes and configurations of baffles. Swimming performance tests will be used to quantify the swimming capabilities of adult white sturgeon and identify physiological and behavioral parameters that may be used to design fish passage structures using appropriate flow and structural considerations. Information gathered during the Flume Study will be used to recommend designs of fish passage structures.

Status: At present the UC Davis Team is analyzing data and writing up the initial draft report which spans the three years of the study. Funds for the study will fully expended by August 2005.

Yolo Bypass Toe Drain

Description: The primary objectives of the Yolo Bypass Experimental Fish Passage Project was to determine the technical viability of constructing a TDF/screened DCC fish facility to assist the upstream migration of target species of fish by: 1) constructing an experimental prototype fish passage facility in the Yolo Bypass Toe Drain, 2) examining the behavior of these fish, including non-salmonid species, near this facility, and 3) determining the conditions needed to move these fish into and through the facility. Secondary benefits of the project were: 1) to investigate the movement of upstream migrating fish through the Yolo Bypass, and 2) to determine of the best way to improve fish passage conditions in the Yolo Bypass

Status: Project is on hold and in anticipation of decommissioning of board weir. One year of data was collected.

Sacramento Deep Water Ship Channel

Description: The purpose of this project is to provide fish passage information to the Delta Cross Channel/Through Delta Facilities Team (DCCTDF) and CALFED. The primary goals of the project are to:

1 implement lock operations and evaluate fish passage in the Sacramento Deep Water Ship Channel Lock;
2 determine the conditions needed to move upstream migrating fish of concern, including non-salmonid species, into and through a lock;
3 collect information on non-salmonid and salmonid species in the Sacramento River.

Status: Task order for MWH was approved May 3, 2005 and contractor is getting ramped up to start data analysis and initial draft final report writing. Contract with Mike Horn, USBR, approved. Mike will be helping with the hydro acoustic data interpretation and write up. One year of fish and hydro acoustic data was collected from May 2003-May 2004. All hydro acoustic data has been post processed to provide fish track information. Database of fish caught by net and water quality has been developed. All equipment has been removed from site and all business with Army Corps of Engineers has been concluded. Regulatory agencies are awaiting final report.

Proposed Studies

In an effort to better understand the hydrodynamics of the Delta and its effects on water quality and fisheries, we are currently working on funding a contract with RMA to calibrate their two-dimensional computer model and run various operational scenarios that include DCC re-operation and TDF alternatives. We anticipate this contract to require at least 3 to 6 months to execute. In the meantime, we are developing the scope of work for the contract.

We propose to fund a regional hydrodynamic and fish study proposed by USGS which will evaluate the movement and mortality of juvenile fish from Hood on the Sacramento River and from Turner Cut on the San Joaquin River. The study, subject to IEP and Science review, is expected to be conducted in the fall of 2006.

Franks Tract Activity

The Flooded Islands Feasibility Study is scheduled to be completed in June 2005. Franks Tract, Sherman Lake and Big Break are flooded islands being studied under this feasibility study. The objectives of the study include a) evaluating the feasibility of habitat diversification, b) developing and evaluating Delta tidal marsh restoration concepts, c) evaluating restoration and modification of shoreline levees and adjacent channels to improve water quality, and d) enhancing or maintaining desirable characteristics related to recreation, aesthetics, and flood control.

The Flooded Islands study has developed four conceptual alternatives that meet the four objectives of the study. The alternatives consist of levee modification, construction of tidal gates, creation of tidal marsh, and construction of recreational beaches. All four alternatives were selected mainly for their water quality benefits. All four alternatives will reduce salinity at the SWP, CVP, and CCWD export facilities.

A reconnaissance study is planned to further analyze and refine the conceptual alternatives developed in the study. This study would include refinement of the model used to evaluate the alternatives and optimization of the operations of the gates. Additional model runs of all four alternatives will be conducted at different and longer hydrologic periods. The study would also include refining the pilot project(s) and the cost/benefit analyses developed under the Flooded Islands study for each alternative. Pilot projects will be implemented and monitored prior to implementing a full project.